



#41

SEQUENCE LISTING

<110> Pecker, Iris
Vlodavsky, Israel
Friedman , Yael
Perets, Tuvia

<120> HEPARANASE SPECIFIC MOLECULAR PROBES AND THEIR USE IN RESEARCH AND MEDICAL APPLICATIONS

<130> 01/22380

<140> US 09/944,602

<141> 2001-09-04

<150> US 09/759,207

<151> 2001-01-16

<150> US 09/322,977

<151> 1999-06-01

<150> US 09/071,739

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<151> 1997-09-02

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<170> PatentIn version 3.1

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20

25

30

Ala Gln Ala Gln Asp Val Val Asp Leu Asp Phe Phe Thr Gln Glu Pro
35 40 45

Leu His Leu Val Ser Pro Ser Phe Leu Ser Val Thr Ile Asp Ala Asn
50 55 60

Leu	Ala	Thr	Asp	Pro	Arg	Phe	Leu	Ile	Leu	Leu	Gly	Ser	Pro	Lys	Leu
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Arg Thr Leu Ala Arg Gly Leu Ser Pro Ala Tyr Leu Arg Phe Gly Gly
85 90 95

Thr Lys Thr Asp Phe Leu Ile Phe Asp Pro Lys Lys Glu Ser Thr Phe
100 105 110

Glu Glu Arg Ser Tyr Trp Gln Ser Gln Val Asn Gln Asp Ile Cys Lys
115 120 125

Tyr Gly Ser Ile Pro Pro Asp Val Glu Glu Lys Leu Arg Leu Glu Trp
 130 135 140

Pro Tyr Gln Glu Gln Leu Leu Leu Arg Glu His Tyr Gln Lys Lys Phe
145 150 155 160

Lys Asn Ser Thr Tyr Ser Arg Ser Ser Val Asp Val Leu Tyr Thr Phe
165 170 175

Ala Asn Cys Ser Gly Leu Asp Leu Ile Phe Gly Leu Asn Ala Leu Leu
180 185 190

Arg Thr Ala Asp Leu Gln Trp Asn Ser Ser Asn Ala Gln Leu Leu Leu
195 200 205

Asp Tyr Cys Ser Ser Lys Gly Tyr Asn Ile Ser Trp Glu Leu Gly Asn
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Gln Leu Gly Glu Asp Tyr Ile Gln Leu His Lys Leu Leu Arg Lys Ser
245 250 255

Thr Phe Lys Asn Ala Lys Leu Tyr Gly Pro Asp Val Gly Gln Pro Arg
260 265 270

Arg Lys Thr Ala Lys Met Leu Lys Ser Phe Leu Lys Ala Gly Gly Glu
275 280 285

Val Ile Asp Ser Val Thr Trp His His Tyr Tyr Leu Asn Gly Arg Thr
290 295 300

Ala Thr Arg Glu Asp Phe Leu Asn Pro Asp Val Leu Asp Ile Phe Ile
305 310 315 320

Ser Ser Val Gln Lys Val Phe Gln Val Val Glu Ser Thr Arg Pro Gly
325 330 335

Lys Lys Val Trp Leu Gly Glu Thr Ser Ser Ala Tyr Gly Gly Gly Ala
340 345 350

Pro Leu Leu Ser Asp Thr Phe Ala Ala Gly Phe Met Trp Leu Asp Lys
355 360 365

Leu Gly Leu Ser Ala Arg Met Gly Ile Glu Val Val Met Arg Gln Val
370 375 380

Phe	Phe	Gly	Ala	Gly	Asn	Tyr	His	Leu	Val	Asp	Glu	Asn	Phe	Asp	Pro
385				390					395					400	

Leu Pro Asp Tyr Trp Leu Ser Leu Leu Phe Lys Lys Leu Val Gly Thr
405 410 415

Lys Val Leu Met Ala Ser Val Gln Gly Ser Lys Arg Arg Lys Leu Arg
420 425 430 -

Val Tyr Leu His Cys Thr Asn Thr Asp Asn Pro Arg Tyr Lys Glu Gly
435 440 445

Asp Leu Thr Leu Tyr Ala Ile Asn Leu His Asn Val Thr Lys Tyr Leu
450 455 460

Arg Leu Pro Tyr Pro Phe Ser Asn Lys Gln Val Asp Lys Tyr Leu Leu
465 470 475 480

Arg Pro Leu Gly Pro His Gly Leu Leu Ser Lys Ser Val Gln Leu Asn
485 490 495

Gly Leu Thr Leu Lys Met Val Asp Asp Gln Thr Leu Pro Pro Leu Met
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Glu Lys Pro Leu Arg Pro Gly Ser Ser Leu Gly Leu Pro Ala Phe Ser
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Met Leu	Leu Arg	Ser Lys	Pro Ala	Leu Pro	Pro Pro	Leu Met		
1	5	10	15					
ctg ctc	ctg ggg	ccg ctg	ggt ccc	ctc tcc	cct ggc	gcc ctg	ccc cga	155
Leu Leu	Leu Gly	Pro Leu	Gly Pro	Leu Ser	Pro Gly	Ala Leu	Pro Arg	
20	25	30						
cct gcg	caa gca	cag gac	gtc gtg	gac ctg	gac ttc	ttc acc	cag gag	203
Pro Ala	Gln Ala	Ala Gln	Asp Val	Val Asp	Leu Asp	Phe Phe	Thr Gln	
35	40	45						
ccg ctg	cac ctg	gtg agc	ccc tcg	ttc ctg	tcc gtc	acc att	gac gcc	251
Pro Leu	His Leu	Val Ser	Pro Ser	Phe Leu	Ser Val	Thr Ile	Asp Ala	
50	55	60						
aac ctg	gcc acg	gac ccg	cggtt	ctc atc	ctc ctg	ggt tct	cca aag	299
Asn Leu	Ala Thr	Asp Pro	Arg Phe	Ile Leu	Ieu Gly	Ser Pro	Lys	
65	70	75						
ctt cgt acc ttg	gcc aga	ggc ttg	tct cct	gct tac	ctg agg	ttt ggt		347
Leu Arg	Thr Leu	Ala Arg	Gly Leu	Ser Pro	Ala Tyr	Leu Arg	Phe Gly	
80	85	90	95					
ggc acc aag aca	gac ttc	cta att	ttc gat	ccc aag	aag gaa	tca acc		395
Gly Thr	Lys Thr	Asp Phe	Leu Ile	Phe Asp	Pro Lys	Lys Glu	Ser Thr	
100	105	110						
ttt gaa gag	aga agt	tac tgg	caa tct	caa gtc	aac cag	gat att	tgc	443
Phe Glu	Glu Arg	Ser Tyr	Trp Gln	Ser Gln	Val Asn	Gln Asp	Ile Cys	
115	120	125						
aaa tat gga	tcc atc	cct cct	gat gtg	gag gag	aag tta	cggtt	gaa	491
Lys Tyr	Gly Ser	Ile Pro	Pro Asp	Val Glu	Glu Lys	Leu Arg	Leu Glu	
130	135	140						
tgg ccc tac cag	gag caa	ttg cta	ctc cga	gaa cac	tac cag	aaa aag		539
Trp Pro	Tyr Gln	Glu Gln	Leu Leu	Arg Glu	His Tyr	Gln Lys	Lys	
145	150	155						
ttc aag aac agc	acc tac	tca aga	agc tct	gtt gat	gtg cta	tac act		587
Phe Lys	Asn Ser	Thr Tyr	Ser Arg	Ser Ser	Val Asp	Val Leu	Tyr Thr	
160	165	170	175					
ttt gca aac tgc	tca gga	ctg gac	ttt atc	ttt ggc	cta aat	gct tta		635
Phe Ala	Asn Cys	Ser Gly	Leu Asp	Leu Ile	Phe Gly	Leu Asn	Ala Leu	
180	185	190						
tta aga aca	gca gat	ttg cag	tgg aac	agt tct	aat gct	cag ttg	ctc	683
Leu Arg	Thr Ala	Asp Leu	Gln Trp	Asn Ser	Ser Asn	Ala Gln	Leu Leu	
195	200	205						
ctg gac tac tgc	tct tcc	aag ggg	tat aac	att tct	tgg gaa	cta ggc		731
Leu Asp	Tyr Cys	Ser Ser	Lys Gly	Tyr Asn	Ile Ser	Trp Glu	Leu Gly	
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aat gaa cct aac	agt ttc	ctt aag	aag gct	gat att	ttc atc	aat ggg		779
Asn Glu	Pro Asn	Ser Phe	Leu Lys	Ala Asp	Ile Phe	Ile Asn	Gly	
225	230	235						
tcg cag tta	gga gaa	gat tat	att caa	ttg cat	aaa ctt	ctt cta	aga aag	827
Ser Gln	Leu Gly	Glu Asp	Tyr Ile	Gln Leu	His Lys	Leu Leu	Arg Lys	
240	245	250	255					
tcc acc ttc	aaa aat	gca aaa	ctc tat	ggt cct	gat gtt	ggt cag	cct	

Ser Thr Phe Lys Asn Ala Lys Leu Tyr Gly Pro Asp Val Gly Gln Pro		
260	265	270
cga aga aag acg gct aag atg ctg aag agc ttc ctg aag gct ggt gga		923
Arg Arg Lys Thr Ala Lys Met Leu Lys Ser Phe Leu Lys Ala Gly Gly		
275	280	285
gaa gtg att gat tca gtt aca tgg cat cac tac tat ttg aat gga cgg		971
Glu Val Ile Asp Ser Val Thr Trp His His Tyr Tyr Leu Asn Gly Arg		
290	295	300
act gct acc agg gaa gat ttt cta aac cct gat gta ttg gac att ttt		1019
Thr Ala Thr Arg Glu Asp Phe Leu Asn Pro Asp Val Leu Asp Ile Phe		
305	310	315
att tca tct gtg caa aaa gtt ttc cag gtg gtt gag agc acc agg cct		1067
Ile Ser Ser Val Gln Lys Val Phe Gln Val Val Glu Ser Thr Arg Pro		
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Gly Lys Lys Val Trp Leu Gly Glu Thr Ser Ser Ala Tyr Gly Gly Gly		
340	345	350
gcg ccc ttg cta tcc gac acc ttt gca gct ggc ttt atg tgg ctg gat		1163
Ala Pro Leu Leu Ser Asp Thr Phe Ala Ala Gly Phe Met Trp Leu Asp		
355	360	365
aaa ttg ggc ctg tca gcc cga atg gga ata gaa gtg gtg atg agg caa		1211
Lys Leu Gly Leu Ser Ala Arg Met Gly Ile Glu Val Val Met Arg Gln		
370	375	380
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Val Phe Phe Gly Ala Gly Asn Tyr His Leu Val Asp Glu Asn Phe Asp		
385	390	395
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Pro Leu Pro Asp Tyr Trp Leu Ser Leu Leu Phe Lys Lys Leu Val Gly		
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acc aag gtg tta atg gca agc gtg caa ggt tca aag aga agg aag ctt		1355
Thr Lys Val Leu Met Ala Ser Val Gln Gly Ser Lys Arg Arg Lys Leu		
420	425	430
cga gta tac ctt cat tgc aca aac act gac aat cca agg tat aaa gaa		1403
Arg Val Tyr Leu His Cys Thr Asn Thr Asp Asn Pro Arg Tyr Lys Glu		
435	440	445
gga gat tta act ctg tat gcc ata aac ctc cat aac gtc acc aag tac		1451
Gly Asp Leu Thr Leu Tyr Ala Ile Asn Leu His Asn Val Thr Lys Tyr		
450	455	460
ttg cgg tta ccc tat cct ttt tct aac aag caa gtg gat aaa tac ctt		1499
Leu Arg Leu Pro Tyr Pro Phe Ser Asn Lys Gln Val Asp Lys Tyr Leu		
465	470	475
cta aga cct ttg gga cct cat gga tta ctt tcc aaa tct gtc caa ctc		1547
Leu Arg Pro Leu Gly Pro His Gly Leu Leu Ser Lys Ser Val Gln Leu		
480	485	490
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Asn Gly Leu Thr Leu Lys Met Val Asp Asp Gln Thr Leu Pro Pro Leu		
500	505	510
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Met Glu Lys Pro Leu Arg Pro Gly Ser Ser Leu Gly Leu Pro Ala Phe		
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Ser Tyr Ser Phe Phe Val Ile Arg Asn Ala Lys Val Ala Ala Cys Ile		
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